



**IN THE UNITED STATES PATENT & TRADEMARK OFFICE**

Application Number : 09/972,203 Confirmation No. 3568  
Applicant : Timothy Bishop et al.  
Filed : October 9, 2001  
Tech Cntr/GAU : 1711  
Examiner : Sanza L. McClendon  
Entitled : Radiation Curable Resin Composition  
Attorney Reference : 102456-40283694  
Customer Number : 43569

Mail Stop Amendment  
Commissioner for Patents  
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**DECLARATION UNDER 37 C.F.R. § 1.132 OF TIMOTHY E. BISHOP**

I, Timothy E. Bishop, hereby declares as follows:

1. I received a bachelor's degree in Chemistry in 1980 from Illinois State University.
2. I have worked in the field of radiation-cured optical fiber coatings for 19 years, in the field of other radiation curable coatings for 6 years.
3. I am currently employed by DSM, the assignee of the above-identified application (hereinafter "the Application") as Principal Scientist, having held this position since 2003. Prior to this position, I was Technology Manager for DSM for two years. I am also one of the inventors of the Application.
4. I have reviewed the Application as filed, the claims as currently pending, and the Office Action mailed December 13, 2005 (hereinafter "the Office Action").
5. The following comparative experiments were undertaken by myself or under my supervision. These experiments were conducted to demonstrate

the unexpected results obtained by curing two identical compositions having the same weight amount of photoinitiators that differ only in that Example compositions have at least 3 photoinitiators, while the Comparative compositions have 1 photoinitiator.

6. These examples are presented in Table I (Primary Coatings) and Table II (Secondary Coatings) in Appendix A and demonstrate that the cure speed - represented by the percentage of reacted unsaturated acrylate (%RAU) at a cure dose of  $4.4 \text{ mJ/cm}^2$  - of Example 1 (67.2) and Example 2 (79.6) is considerably higher than that of Comparative Example A (18.9) and Comparative Example B (24.8). This performance difference is surprising and unexpected.

I hereby declare that all statements made herein of my own knowledge are true, that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: 4/10/06

Timothy E. Bishop  
Timothy E. Bishop

## Appendix A

**Table I: Primary Coating Compositions**

<b>Components</b>	<b>Comp. Ex. A</b>	<b>Ex. 1</b>
0303-196 (PTGL 4000/IPDI/HEA)	56.00	56.00
Propoxylated nonyl phenol acrylate	36.50	36.50
Irganox 1035	1.00	1.00
A-189	0.49	0.49
A-1110 aminopropyl trimethoxy silane	0.01	0.01
<b>Photoinitiators:</b>		
Irgacure 184	6.00	3.00
Lucirin TPO	-	1.00
Darocur 1173	-	2.00
<b>% RAU (4.4 mJ/cm<sup>2</sup>)</b>	<b>18.9</b>	<b>67.2</b>

**Table II: Secondary Coating Compositions**

<b>Components</b>	<b>Comp. Ex. B</b>	<b>Ex. 2</b>
DG-0022 (PPG 1010/TDI/HEA)	35.00	35.00
98-521 (PTHF 650/TDI/HEA)	35.00	35.00
HDDA	24.995	24.995
Irganox 1035	1.00	1.00
DC 57	0.005	0.005
<b>Photoinitiators:</b>		
Irgacure 184	4.00	1.00
Lucirin TPO	-	1.00
Irgacure 819	-	1.00
Darocur 1173	-	1.00
<b>% RAU (4.4 mJ/cm<sup>2</sup>)</b>	<b>24.8</b>	<b>79.6</b>